CLAIMS:

1. A printer apparatus translating high-level printing signals received by the printer from a source of these signals and responsively providing control signals effecting actions of the printer, said printer apparatus comprising:

print formatter circuit means receiving high-level printing signals communicating from a host computer unit and responsively outputting a mid-level interface communication signals including print data and print data register addresses;

printhead controller circuit means receiving said output from said print formatter circuit, and responsively providing low-level discreet control signals controlling printing actions of a printhead.

2. A printer apparatus according to claim 1, wherein said printhead controller circuit means includes an application specific integrated circuit (ASIC) including functions, instructions and algorithms for translating said mid-level interface communication signals into said low-level control signals.

3. A printer apparatus according to claim 1, wherein said ASIC includes a function allowing identification of a printhead type currently installed in the printer.

4. A printer apparatus according to claim 1 wherein said printhead controller circuit ASIC further allows said printhead controller circuit to control a temperature of said printhead.

5. A printer apparatus according to claim 1 wherein said printhead includes a plurality of printing orifices, and said ASIC provides a "orifice select" signal indicative of a particular one of said plurality of orifices from which ink is to be ejected.

6. A printer apparatus according to claim 1 wherein said intermediate level communication interface provides exclusive communication between said print formatter circuit and said printhead controller circuit.

7. A data transfer method in which data for outputting text or images to a print medium is requested by a printhead controller and supplied by a print formatter, said methods comprising the steps of :

requesting data ;

determining the start address of the data block;

determining the address at which the data block ends;

reading the data from a register or memory location;

acknowledging receipt of the data;

determining the type of data received;

determining which of multiple printheads the data is to be supplied to;

supplying the data to the correct printhead.

8. A method according to claim 7 whereas a print controller may request that data for one of multiple printheads to be placed on the Data Control Bus.

9. A method according to claim 7 whereas the print formatter instructs the printhead controller as to the starting address of the data block to be supplied.

10. A method according to claim 7 whereas the print formatter instructs the printhead controller as to the correct last byte of data to be read.

11. A method according to claim 7 whereas the printhead controller may read the data placed on the Data Control Bus by the print formatter.

12. A method according to claim 7 whereas the printhead controller may acknowledge receipt of a block of data from the print formatter.

13. A method according to claim 7 wherein the printhead controller may determine the type of data or instructions received from the print formatter.

14. A method according to claim 7 wherein the print controller may determine which one of multiple printheads the data be supplied to for the proper layout of the print object on the print medium.

15. A method of inkjet printing with an inkjet printhead having plural orifices from which print fluid is selectively ejected individually onto print medium, said method comprising steps of:

providing a print formatter circuit for receiving high-level printing signals and responsively outputting both print data and print register addresses;

providing a printhead controller circuit receiving said print data and said print register addresses, and responsively outputting control signals to said print head for effecting ejection of printing fluid therefrom.

16. The method of Claim 15 further including the step of providing said printhead controller circuit with an application specific integrated circuit (ASIC).

17. The method of Claim 16 including the step of providing for said ASIC to be removed from said printer, and to be replaced with an updated new ASIC.

18. The method of Claim 15 further including the step of including in said control signals an "orifice select" signal, and utilizing said "orifice select" signal to select from among said plural orifices of said printhead a single orifice from which printing fluid is ejected individually.

19. The method of Claim 18 further including the step of including in said control signals an "energy dissipation" control signal, and utilizing said "energy dissipation" control signal to control an energy level provided at said selected single orifice for ejecting printing fluid therefrom.

20. The method of Claim 18 further including the step of including in said control signals a "temperature level interrogation" signal, and utilizing said "temperature level interrogation" signal to assess a temperature of operation of said printhead.

21. A method of operating an inkjet printing apparatus receiving high-level printing signals from a source of these signals and responsively providing control signals effecting actions of the printer, said method comprising steps of:

providing a print formatter circuit receiving the high-level printing signals and responsively outputting mid-level interface communication signals including print data and print data register addresses;

providing a printhead controller circuit receiving the mid-level interface communication signals and responsively providing low-level discreet-action control signals directly effecting printing actions of an inkjet printhead.

22. The method of Claim 21 further including the step of configuring the printhead controller circuit to include an application specific integrated circuit (ASIC) including functions, instructions and algorithms for translating the mid-level interface communication signals into the low-level control signals.

23. The method of Claim 22 further including the step of providing for said ASIC to be removable from the printing apparatus, and providing for the printing apparatus to accept and utilize a substitute ASIC.

24. The method of Claim 22 including the steps of providing for said ASIC to include functions selected from the group consisting of: Nozzle_select, Energy_management, Encoder_signal, Temperature_management, Horizontal_alignment, Vertical_alignment, and Timing_control; in which the function Nozzle_select informs an inkjet printhead which one or ones of the plurality of respective nozzles are to discharge a minute jet of printing fluid; the function Energy_management regulates an amount of power dissipated at a selected one of the plural nozzles; the function Encoder_signal provides for location of the lateral position and direction of movement of a print head; the function Temperature_management monitors a temperature of the printhead, the function Horizontal_alignment directs a printhead traverse mechanism of the inkjet printing apparatus to laterally align the printhead on print medium; the function Vertical_alignment directs a print medium feed mechanism of the printing apparatus to align the print medium along a printing path; and the function Timing_control synchronizes movements of the print medium feed mechanism, the printhead traverse mechanism, and other printing events.

25. The method of Claim 24 further including the steps of providing for said ASIC to include functions selected from the group consisting of: Printhead_identifier, Reset_sequencing, Continuity_testing, and Printhead_cleaning; and in which the function

Printhead_identifier identifies a particular printhead installed in the printing apparatus, and provides an indication of the correct instruction set to be used for that printhead; the function Reset_sequencing resets the printhead to an initial starting condition if necessary; the function Continuity_testing verifies an electrical interface between the printhead controller circuit and the printhead; and the function Printhead_cleaning causes the printhead controller circuit to clean the nozzles of the printhead by ejecting bursts of ink jet ejections of pre-determined strength and intensity.

26. The method of Claim 21 including the step of utilizing the intermediate level communication interface between the print formatter circuit and the printhead controller circuit as the exclusive communication of data, address, command, and information signals between these circuits.

27. A printer interface, comprising:

means for receiving high-level printing signals and responsively outputting both print data and print register addresses; and

means for receiving said print data and said print register addresses, and responsively outputting control signals to effect printing fluid discharge in a controlled manner.

28. A method of printing, comprising:

receiving high-level printing signals and responsively outputting both print data and print register addresses; and

receiving said print data and said print register addresses, and responsively outputting control signals to effect printing fluid discharge in a controlled manner.

29. A printer interface, comprising:

means for receiving high-level printing signals and responsively outputting mid-level interface communication signals including print data and print data register addresses; and

means for receiving the mid-level interface communication signals and responsively providing low-level discrete-action control signals directly effecting printing actions of an inkjet printhead.

30. A printing method, comprising:

receiving high-level printing signals and responsively outputting mid-level interface communication signals including print data and print data register addresses; and

receiving the mid-level interface communication signals and responsively providing low-level discrete-action control signals directly effecting printing actions of an inkjet printhead.